

Amendment
U.S. Patent Application No. 09/730,708

REMARKS/ARGUMENTS

Reconsideration and continued examination are respectfully requested.

The amendment to the claims further defines what the applicant regards as the invention. Support for the amendment can be found throughout the present application, including the claims as originally filed, for instance, claims 2 and 3. No questions of new matter are raised by the above amendment. Entry of the above amendment is therefore respectfully requested.

Claims 1 and 4-15 are pending in the application. Claims 2 and 3 have been canceled.

At page 2 of the previous final Office Action, the Examiner rejected claim 1 under 35 U.S.C. §102(b) as being anticipated by Austin (U.S. Patent No. 4,272,487). The Examiner maintains that Austin, at column 4 and Figure 1, teaches injecting "cool" combustion gas to shield the process gas. Additionally, the Examiner asserts that the applicant's previous argument that claim 1 requires the sheathing gas be injected downstream is not persuasive, and the claim does not require this limitation. The Examiner then asserts that only the sheathing effect needs to be downstream. For the following reasons, this rejection is respectfully traversed.

According to the Office Action, the Examiner objects to claims 3-5 and 8 as being dependent on a rejected claim. Claims 3-5 and 8 would be allowable if rewritten in independent form. Claim 1 includes the limitations of claims 2 and 3. Therefore, claim 1 is in condition for allowance. Accordingly, the rejection of claim 1 under 35 U.S.C. §102(b) over Austin should be withdrawn.

At page 2 of the Office Action the Examiner also maintains the rejection of claims 1,

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2, 6, 7, 9, and 10 under 35 U.S.C. §102(b) as being anticipated by Dahmen et al. (U.S. Patent No. 3,761,577).

According to the Examiner, Dahmen et al., at column 4 and Fig. 1, shows blanketing process gas with a downstream combustion gas, injected axially. According to the Examiner, the widened portion can be considered a stage. Furthermore, the Examiner asserts that Dahmen et al. makes carbon black; therefore, carbon black formation conditions clearly exist in the reactor. The Examiner further asserts that it is not clear why the gas of Dahmen et al. is not equivalent to the present system, but concludes that sheathing is not required to have any particular effect in the claimed invention. For the following reasons, this rejection is respectfully traversed.

Claim 1 of the present application specifically recites, in part, that the fluid stream is introduced in an axial direction, and wherein the fluid stream has a swirl pattern.

Claim 6 of the present application specifically recites, in part, a process for producing carbon blacks comprising generating a stream of combustion gases in a first stage of a reactor, and using at least one converging zone.

According to Dahmen et al., at column 5, lines 50-66, axial air is normally introduced through pipe 42. The carbon black feedstock is injected through conduit 41 and is sprayed into the primary reaction zone through a nozzle 53 downstream from primary combustion zone. Downstream of primary reaction zone 5, a secondary reaction zone 7 is established by introducing secondary hot combustion gases into the reactor through a plurality of small ports 57 at the point where the cross-sectional area of the reactor is increased to the extent that the concentration and linear downstream velocity of the combustion products are essentially unaltered. Dahmen et al. simply does not teach

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or suggest a fluid stream that is introduced in an axial direction, and wherein the fluid stream has a swirl pattern.

Furthermore, the carbon black feedstock of Dahmen et al. is injected through a conduit that sprays the carbon black feedstock into the primary reaction zone through a nozzle downstream from the primary combustion zone; however, the combustion zone and the reaction zone in Dahmen et al. are not distinguishable. The hot combustion gases of the claimed invention pass through the first stage, downstream into an additional reactor stage or stages. The additional reactor stage(s) includes at least a feedstock injection stage and a reaction stage. Claim 6 further recites passing the combustion gases through a zone of converging diameter which is not taught or suggested in Dahmen et al. Accordingly, the rejection under 35 U.S.C. §102(b) should be withdrawn.


If there are any questions, the Examiner is encouraged to contact the undersigned by telephone.

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CONCLUSION

If there are any other fees due in connection with the filing of this Preliminary Amendment, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,


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